

## Chapter 1: Introduction

This is a thought experiment (Polanyi, 1962; Robinson, 2011,). It is an attempt to define and describe the way in which profound professional learning occurs in the 21st Century. I have chosen to name this phenomenon '*auto/pedagogy*'. I continue by exploring the critical factors that seem to contribute to auto/pedagogy and work these into a framework that might become useful for others attempting to both analyse the effectiveness of teacher's contemporary continuing professional development (CPD) programmes, or structure new ones fit for purpose in the constantly-shifting context of education.

In order to do this, I have undertaken structured reflections on five 'illustrative moments' in my own professional learning journey. Such activity is in keeping with the auto/biographic method developed by West (2004) and with the hermeneutic processes of liberation theologians (Gutierrez, 1971), writers who noted the importance of each learner understanding her/his own context and being able to extract meaning from it. My professional life has, for the last twenty years, been dominated by information and communications technology (ICT), such that I find myself no longer a teacher of religious education but an adviser and consultant, much of whose work is education-technology related.

About ten years ago, it occurred to me that ICT had been a significant factor in the evolution of my career. I began to reflect on this and realised that it had also been the means whereby I had gathered knowledge, skills, understanding and toolkits which had enabled me to respond to each new career challenge. It was as if my professional learning was both caused by and facilitated through technology. On deeper reflection, I began to notice that there were some 'moments' in my career where the learning had been so profound that I had almost ended up on a different

career path. Such moments have been referred to as 'critical incidents' (Jasper, 2003). I have chosen to attenuate this term to 'illustrative moments'; the reasons for doing so are set out in chapter 3 where I also set out a rationale for selecting the five particular moments as the objects of research for the study.

At the same time, and symbiotically, I was developing the need to find ways of improving colleagues' access to, engagement with and confidence in, ICT. Intellectually, I wrestled with how best to provide training and professional learning opportunities that would be inclusive and inspirational for them as opposed to alienating and discomfoting. Not everyone, I noticed, was as enthralled by the possibilities of the newly-emerging technology as me; nor were they keen to invest the time needed to learn. I began to wonder, then, if there was anything to be learned from my own story with technology that might enable me to understand professional learning better.

A major reason for undertaking this research was, therefore, to ascertain if there exist any characteristics or consistently-occurring phenomena in my auto/biography<sup>1</sup> that might point to a tool, framework or construct that could be useful for others in similar professional learning contexts. The intention was not to create a new learning technology, nor to develop a series of learning materials, or even a textbook. It was more about investigating and identifying the conditions or factors by which my own professional learning occurs so others might similarly understand more about their own professional learning. Thus, a more efficient framework for professional learning for which I had been searching might emerge.

---

<sup>1</sup> The etymology and methodology of auto/biography are set out in section 3.1.4

### ***De Profundis***

What do I mean by 'profound'? I have chosen to use this word to characterise the professional learning that occurred in the five illustrative moments rather than 'surface' or 'deep'. Oscar Wilde's incarceration in Reading Gaol was unarguably a critical incident in his life. His essay '*De Profundis*' (Wilde, 2012) is an extraordinary window into the spiritual and metaphysical insights he developed during this time. The theological reflections and musings might never have emerged had he not been subject to this experience. His choice of the title *De Profundis* signals his intention to theologise on the nature of suffering since it is a direct adoption of the title of one of the most famous prayers in Catholicism: "Out of the Depths, I cried to you O Lord: Lord hear my voice." (<http://www.fisheaters.com/prayers.html#deprofundis>) Whilst the translation of '*profundis*', here, is 'depth', this is not about an experience that is just 'deep' as in 'below surface level'; rather it is more like 'profound' as in "penetrating deeply into subjects or ideas [...] showing or requiring great knowledge or understanding [...] reaching to or stemming from the depths of one's nature..." (Hanks, 1989 p.1222). Wilde's extrapolation, albeit poetically, from his own experience of suffering to thoughts on the problem of suffering in the world is a model for conducting a thought experiment. He plays with the idea of suffering, applying both biblical texts and the "words and works of others" (Kirkham, 2003) to the concept and successfully describes how it is and how others might respond. I find this a helpful way of exploring big ideas and concepts and adopt the practice in some sections of this thesis where metaphor and modelling are deemed to be helpful ways of gaining insight and understanding.

### **Professional learning**

What do I mean by 'professional learning'? In short, the knowledge, skills, understanding, and ability to evaluate critically, learning phenomena that professionals need in order to make progress in their practice and career. In the context of this research, I am limiting the discussion

to teacher's professional learning, though I am conscious that the term covers everything from initial training as teachers, to formal CPD activities as well as the many and various ways in which, informally, they pick up, acquire, 'stumble across', borrow, adapt or adopt practice, knowledge, skills and understanding to aid them in their professional work. I observe teachers using analogies from their own personal lives to exemplify complex issues for children; I hear them citing personal learning experiences as models from which children may learn and I see them committing time, money and effort to engage in a range of structured learning activities. I believe, however, that the practices apply to the learning contexts of all professionals.

### **Supplementary pedagogical co-constructionism**

Set out above is my 'take' on professional learning. Here, I want to drill down into the infrastructure of the term, *learning*, so that my use of it is clearly understood. This is also undertaken to account, in part, for what Phillips and Pugh (1994) term the 'background theory' to the study. I believe that learning is a personal commitment to changing one's being. Once the learner has assented to the process of learning, they then require a framework in which to operate appropriate learning behaviours. In many cases an 'agent' is required to remind the learner of the importance of switching on such dispositions and attitudes. The agent of their learning also provides the framework or, in the sense in which Vygotsky (1978) intended it, a 'scaffold' which supports the building of new, knowledge, skills or understanding. Too often, modern process-oriented learning programmes fail to provide either the scaffold, the building blocks, or the content, to be learned. They may even assume that the act of exhibiting learning behaviours will be enough to cause it to happen. I disagree. I believe, like Grimmer (2000), that the agent of learning supplements the learner's commitment and disposition to learn with expertise, experience or educationally-sound programmes. Together the agent and the learner co-construct knowledge and meaning in a collaborative interaction from which both may take

away new ideas, knowledge, skills or understanding. Thus, when I use the term 'learning', it is representing the phenomenon of supplementary pedagogical co-constructionism and not just a contemporary iteration of child-centred (Plowden, 1967) education or constructivist theory (Vygotsky, 1978). Use of the developed term co-constructionism begins to appear in the writings of Goodson and Mangan (1991, p.11) and is deployed consistently in the later writings of Leask (2010). It is used here, by me, in preference to constructivism in honour of the knowledge-building environments I witnessed in New Zealand (Lewis, 2002 and appendices 1 and 4).

### **Origins**

The origins of this thesis lie in the gradual realisation of what was happening to learning across an extended period of time that extends from the late 1980s to the present day. One of the phenomena of the period has been the rapid evolution of information technologies. These technologies are said to have 'flattened the world' (Freidman, 2006), accelerated the pace of globalisation (see e.g. Ritzer, 1983, Hayes et. al., 2002) enabled and empowered hitherto marginalised, vulnerable and excluded groups and catalysed a revolution in pedagogy/andragogy (see, e.g., Salmon 2000; Thorne, 2004).

To locate this thesis in its historical setting it is convenient to reference the 'falling of the Berlin wall' (Friedman, 2006) in 1989. It was in that year that I took up the post as head of religious education at St. Simon Stock School in Maidstone. Given the re-location of my family, the setting up of a new home, the birth of a second child and the commencement of a new role, the tumultuous events in Berlin and their domino effect across Eastern Europe almost passed me by. The symbolism of those events did not, however, escape me. Here was the demolition of man-

made<sup>2</sup> frontiers, traditional, ideological boundaries and the historical polarities of the 20<sup>th</sup> Century. Since then apartheid has ended in South Africa, Roman Catholics and Protestants share power in Northern Ireland and an African-American with partial Islamic heritage was elected as President of the biggest ‘democracy’ in the world: over twenty years of unprecedented change.

The accompanying technological revolution has seen, for example, the explosion of personal computing in the home, the invention and implementation of the internet and the ‘squashing’ (Jones, 2006) into pocket-sized devices of more ROM (read-only memory) than took ‘men’ to the moon in the 1960s on the Apollo space missions. People can now talk face-to-face with friends, relatives or colleagues on the other side of the world (through online video conferencing, *Apple Face Time*, *Skype*, computer-mediated conferencing and so on). They can share desktops, applications, films, music and ‘chat’ from PCs or mobile devices. They can both publish and read, textually or visually, their own ‘journalism’ (through blogging, vlogging or social-networking) and can organise themselves in protest groups, charitable activities or social enterprises without recourse to traditional media (books, newspapers, radio and television). Much traditional commerce has moved online: travel agencies, estate agencies, even dating agencies have moved online; and new shopping utilities such as amazon.com, ebay.com and e-buyer.com are re-shaping the whole retail experience.

It is against that backdrop that this research came into being. I realised, around 2003, that what fascinated me was the effect all this new technology was having on my professional learning. As indicated above, I mean the knowledge, skills, understanding and ability to evaluate critically learning phenomena which were necessary in the context of my professional life. I realised that

---

<sup>2</sup> Women are deliberately excluded from observations about the building of historic artificial frontiers.

whilst I acquired such things in formal learning contexts (in-service education and training (INSET); continuing professional development courses (CPD) and higher level study e.g. my own Masters degree), the things I needed just in time to teach, lead or manage were usually mediated by some technologised means. It was around that time that I also became aware that I had moved from being a classroom teacher of religious education to the person delivering change through Information and Communications Technology (ICT) in the Faculty of Education at Canterbury Christ Church University.

The transition from the two states of being was not planned, intended or caused. It had happened by a series of accidents, though, when a process of critical reflection was applied to them, technology appeared to be implicated in each. It was as if these particular 'moments' were both the cause and effect of change in my professional learning. Now, as I write up this thesis, I realise that they are most appropriately termed critical incidents:

"Critical Incident: Event that stands out in your mind and contributes directly to your development as a practitioner." (after Flanagan, 1954 in Jasper, 2003 p. 13)

As will be seen in chapter 3, I do not adopt critical incident theory or practice wholly, since the thesis is more provisional in its outcomes; rather I prefer to use the term 'illustrative moments'. What started to emerge was the hypothesis that in my life, the coming together of self, epistemology and technology at particular moments caused significant change. On reviewing the literature 'around' this project, it has become clear that there is no single text which rehearses this argument. Nor have I found theoretical constructs which illuminate my lived experience, or an existing conceptual framework which satisfactorily evaluates it as is necessary apparently in critical incident theory. Thus it seemed appropriate to try to use the story of my metamorphosis as a way of both establishing how it had happened and in what ways it might itself be useful in the development of a construct. I wondered, if it were the case that my own

professional learning was shaped by the interlocation of self, epistemology and technology, might it also be the case for other contemporary professional learners.

"... a central commitment to the study of one's own professional practice by the researcher himself or herself, with a view to improving that practice for the benefit of others." (Dadds and Hart, 2001 p. 7)

So I decided to embark on a research programme examining the characteristics of professional learning in the technologised era. Indeed, it has been argued at this moment in the history of humankind, 'Learning [is itself]: the Critical Technology' (Conner et. al, 1996). In the appropriately quirky foreword, Conner writes,

"I believe that successful information organizations must become systematic, even organic. Soon, work will no longer be defined by job descriptions, but rather by growing, changing, and evolving sets of projects, programs and people. What we know and can access quickly will determine our ability to prioritize, focus and do the job. Education will be the soul of the new technology industry." (Conner et.al., 1996)

It is with the benefit of hindsight that the relevance of this quotation to my own story can be seen. The words might now be described as 'partially realized prophecy'. Organisations such as Hibernia College in Ireland ([www.hiberniacollege.net](http://www.hiberniacollege.net)) have become successful and powerful as they embraced the new learning opportunities afforded by technology and grew organically from very small starting points. For a short period, I was happy to share their development. With Dr. Nick Breakwell of Hibernia College, I designed, developed and implemented the *iteach* programme [www.iteach.ac.uk](http://www.iteach.ac.uk)<sup>3</sup>.

My involvement with Hibernia College came about because sometime around 1996, co-terminus with the publication of Conner's work (retrospectively relevant as indicated). I began to see the potential of the internet and computerised networks in learning. Ultimately, the acts of

---

<sup>3</sup> The narrative of that programme development ought to be written as it reveals much of the tensions between a new and upwardly mobile, agile and creative 'new' university and its counterpart still shackled by ancient and irrelevant practices and procedures. It is only of tangential relevance to the present thesis and is thus noted but not explored fully.



discovery, exploration and informal experimentation in which I began to engage as a classroom teacher led to my appointment as Director of Learning and Teaching with ICT in the Faculty of Education at CCCU. It was in the lead-up to the appointment to that role that I realized there might be something original and useful in my story that might point to a framework, a construct, a concept or, at least, an interesting phenomenon about which to write. The decision to formalise this enquiry in higher level doctoral study has resulted in the research project which leads to the writing of this thesis.

There are many challenges documented about undertaking a Ph.D. part-time (e.g. Phillips and Pugh, 1994, McNiff, Lomax and Whitehead, 2002), the main one being the necessity of juggling work against research and study. Others have written about the importance of researching one's own professional context and attempting to find ways of illuminating it with theory and *vice versa* (see e.g. Dadds and Hart, 2001, Hopkins, 2002, Lave and Wenger, 2008). Helpfully, I became aware of a useful theoretical model around 2004 that seemed to harmonise both (see West, 2004)<sup>4</sup>. The auto/biographic method encourages researchers to explore their own narratives reflexively in order to excavate from them important messages and meanings which can be carried forward into other aspects of their lives.

"Telling new stories about self, others and a life seems to lie at the heart of exploiting some of the possibilities of our present times and transcending its worst features." (West, 2004 p. 208)

Since I have, in the past<sup>5</sup>, used insights arising from the autobiographic work of others (e.g. St. Augustine, 1995, McDonagh, 1979, Mandela, 1994), it seemed logical to explore this approach for the emerging project. Of specific help was the work of Abbs (1974) who rehearses the value of using autobiography in educational research.

---

<sup>4</sup> A full explanation of this methodology is provided in chapter 3 of the thesis

<sup>5</sup> Especially in the context of teaching religious education

“It [education] would seem to take place inside the person [...] it is the individual who knows, who reasons, who asks, who expresses, who seeks, or fails to do so.” (Abbs, 1974 p.3)

This one quotation provides an epistemological context for the work. As will be shown in the methodological chapter of the thesis, the epistemology – or the way of knowing – for this study arises from a reflexive analysis of my own experiences of technology-enabled learning. These reside in my autobiography, the stories and narratives of my professional evolution.

The ‘illustrative moments’ from my autobiography, were selected because they evince a number of consistently-occurring phenomena or factors from which I have attempted to build a framework for professional learning. In that sense this research activity is about ‘tool-making’, insofar as ‘frameworks’ can be seen to be tools for, for example, scaffolding learning (Vygotsky, 1978):

“Man as a tool-maker has established his distinctiveness from the rest of the animal world and with the revolutionary progress of the last century and a half contributed to so changing the world in which he lives that he himself has been changed in ways as yet difficult to assess.” (McDonagh, 1979 p.120)

Several points need to be made about the above quotation. First, McDonagh’s use of the term ‘century and a half’ needs to be interpreted with appropriate chronology. He was writing three quarters of the way through the 20<sup>th</sup> Century and, as such, might be regarded as out of date. His words are, however, prophetic when seen metaphorically. Moreover, his use of the royal ‘he’ is consistent with the discourse out of which he writes. The relevance of the quotation to the thesis lies in the implication of ‘change’ to personhood wrought by humankind’s engagement with technology.

McDonagh also writes,

“From the reaping hook to the laser beam, the tool in the narrow sense of physical instrument has manifested man’s intellectual ingenuity in extending his bodily powers and so utilising his environment more effectively.” (McDonagh, 1979 p. 119)

With hindsight, and the benefits of an extended period of research into my own autobiography, it has become clearer that what has been happening in my life has been an intellectual attempt to extend my bodily (and intellectual) powers to utilise my environment more effectively in that I am trying to make sense of the world I find myself in now. Of note here is the reality that there was no textbook for these studies, no script and no plan at the outset. It was necessary, in retrospect, to superimpose methodological rigour to the systematic enquiry so that meaning and sense are derived from *a posteriori* analysis of the illustrative moments – they are not the outcomes of a planned, sequenced and trialled laboratory experiment. In some senses, then, this is a form of action research. A full explanation as to why the project does not entirely conform to this model is set out in chapter 3. If the work does sit within any specific research tradition at all it is most likely aligned with the ‘Living Theory’ school (e.g. Whitehead and McNiff, 2006) since much of it is theory-building rather than theory-practising.

Where the work is positioned has been a continuous challenge. Bridges (2006) notes:

“The conditions for both the production and validation of research require communities of arguers, enquirers and critics – and a condition for the possibility of such communities of arguers is their sharing in a common language and their shared recognition and reference to some common rules of (in this case) intellectual and creative behaviour.” (Bridges, 2006 p. 265)

Bridges’ work, published in the *Journal of the Philosophy Society of Great Britain*, positions his work in that tradition, discourse and research paradigm. He argues that philosophy of education is one of the ‘foundation disciplines’ of education, alongside sociology, psychology and history (Bridges, 2006 p. 259) and he goes on to argue that multi-disciplinarity, interdisciplinarity and

postdisciplinarity have not necessarily been helpful in securing the validation and rigour of modern educational research (Bridges, 2006 p.261). He makes a powerful case for retaining traditional disciplines. However, and as will be explored in chapter 2, at the time of writing there is no fixed discourse for working in and around educational technology - arguers in this field, constantly draw on sources from literature, science, history, even mathematics and its inevitable use of metaphor to represent perhaps unseen phenomena: hence the relevance of references to Wilde (2012) above.

Many of the metaphors and illustrations I use derive from my knowledge and understanding of and participation in the domains of philosophy, religious studies and education, itself. Whilst acknowledging Bridges' point, therefore, and using it as support for my claim to position aspects of the work within the philosophical tradition, I am aware that there is a reading of the work that could be said to be avowedly multi-disciplinary. In particular, in chapter 3, reference is made to the schemas rehearsed by Jasper (2003) which draw on extensive multi-disciplinary activity. Perhaps it is thus in this noble tradition of 'thinking outside the disciplinary box' that this study finds its appropriate locus; there is unity in the strength of joining things together.

Another part of the challenge for this study has been my 'prior learning'<sup>6</sup>. Psychologically, a person is where they are as a direct outcome of prior learning and prior experiences. My first degree was in theology, a substantial part of which (33%) was in the discipline of the philosophy of religion. My post-graduate certificate in education was acquired at King's College, London, one of the constituent parts of the University of London, which at the time was heavily

---

<sup>6</sup> The Early Years Foundation Stage consistently requires practitioners to benchmark children's progress against their 'starting points and capabilities' (Ofsted EYFS Inspection framework, 2009). Schools are expected to take account of children's prior learning. Initial teacher trainees are constantly exhorted to 'recap' at the start of the lesson and to take account of pupils'/students' prior learning and so on.

influenced by the work of R.S. Peters<sup>7</sup>, arguably the doyen of the philosophy of education; even my Masters degree, though far more explicitly practice-oriented, had elements of philosophical method.

As can be seen in chapter 2 of this thesis, there is a distinct theme in philosophy, epistemology, which has been characterised as ‘the science of knowing’ (Leask, 2010). This ‘discipline’ has its origins in ancient systems of thought and human endeavour (for a full exploration of this see chapter 2 on knowledge). In the philosophical tradition, ‘arguers’ account for that which is known as either *a priori*, (in terms of principles or universally occurring phenomena such as mathematical patterns and physical properties) or *a posteriori* phenomena, those which are known as a result of reflections on experiences, events or experiments.

It is the latter type of knowing that seems to position the present research. Structured reflections on experiences leading to significant gains in knowledge, meaning or understanding of the world and the way it is. The work has become an intellectual process around concrete experiences – the illustrative moments that are the research objects for the study – and that positions it in the tradition of epistemological method where philosophers have analysed phenomena and reported on the meanings and significances to be derived from such activity. I learned this methodology from the moral philosopher, Enda McDonagh (1979), whilst wrestling with how to teach ethics to A Level students.

For McDonagh (1979), ‘*Doing the Truth*’ was about identifying those moral issues that touch on an individual’s life – thus, an autobiographic philosophical method. In the discipline of moral philosophy there is the established tradition of ‘emotivism’, often ascribed to G.E. Moore (1903)

---

<sup>7</sup> Peters is perhaps best associated with the seminal *Ethics and Education* (Peters, 1974)

but with its roots as far back as David Hume's *An Enquiry Concerning the Principles of Morals* (1751). Frequently referred to as the 'Boo/Hurrah' method, emotivism is a description of discourses in morality which take account of emotional, visceral or non-cognitive responses to issues of right and wrong. McDonagh's book is the story of those moral issues which have been personally significant in his life. It is, in effect, philosophical investigations of those phenomena demanding his urgent attention morally (McDonagh, 1979). I want to argue that this thesis is akin to philosophical investigations on personally-significant moments in my professional life.

Furthermore, the term, 'philosophical investigations', is used here deliberately to contribute to the positioning of the project. As a contemporary of Moore and other important philosophers of the 20<sup>th</sup> Century, Wittgenstein is an influence on the intellectual 'luggage' that is in my prior learning<sup>8</sup>. Arguably his *magnum opus* was *Philosophical Investigations* (Wittgenstein, 1953), an analytical approach to the language used to describe the specificity of human events, experiences and emotions. Later in the 20<sup>th</sup> Century, Karl Rahner paid homage to this work by adapting the title for his own colossal piece of systematic theology, *Theological Investigations* (Rahner, 1976). This was a work that dominated the disciplined study of theology that I undertook as an undergraduate in the early 1980s. Systematic theology is organised around a framework that derives from the Nicene Creed (325 BCE) and looks in turn at doctrinal concepts such as God, Jesus, Faith, 'The Last Things' and so on. Among others, historically significant figures like Aquinas (1225 - 1274), Calvin (1509-1564), Barth (1886-1968) and MacQuarrie (1919-2007) have published works in this form taking into account the contemporary cultural, intellectual and philosophical mindset(s) – in German theological terms the *sitz-im-leben* (literally, 'setting in life').

---

<sup>8</sup> It is also important to acknowledge the contribution of A.J. Ayer (see e.g. Ayer, 1972) and a more full explanation of that contribution comes in chapter 2.

The critical point to be made here is that much of my early professional learning was undertaken in the classical tradition, in conventional learning settings and using an epistemological method that was, until the 1980s, systematic and linear. This thesis has caused me to free myself from the shackles of learning in these very traditional ways, useful and all as they were to get me to this point.

Rahner's *Theological Investigations* (1976) captured the *zeitgeist* of the 1960s in an attempt to make Christian Doctrine relevant and reliable for the changing world. The dynamic inter-relationship of doctrinal theory and 20<sup>th</sup> Century experience rendered the work helpful, instructive and influential for a Church trying to make sense of its place in and contribution to that world.

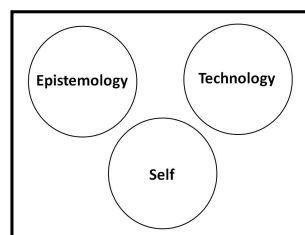
Husserl also adopted the term 'investigations' (see *Logical Investigations* Husserl, 2001). Husserl's approach to knowing, as will be seen, in chapter 3, was influential on the development of phenomenological approaches to research - approaches that contribute to the epistemological bases for this thesis. So, at one point during its development, and as homage to Wittgenstein, Husserl and Rahner, I entitled this thesis *Technological Investigations*. In doing so, I was intending to signal the dynamic process of reflecting philosophically on experiences in which technology seemed to have been influential; a process not dissimilar to Wilde's 'profound' play with the problem of suffering set out earlier. As will be seen in chapter 3, the philosophical reflections are shaped by the phenomenological approach (Natanson, 1970, Sokolowski, 2000, Moustakas, 1994) to some qualitative studies and also the reflexive auto/biographical method advocated by West et. al. (2004, 2006). It is, as stated previously, an attempt to understand the factors present in some professional learning episodes from my career where technology was both the agent and the medium and which might be illustrative for others in theirs:

“Who doesn’t spend time trying to make sense of information that may not be important? Why continue to rework old models when they don’t help us improve results? Why not accept that many of our current strategies don’t work and instead evolve?” (Conner et. al. 1996)

In order to prepare for the research phase of the project, I embarked on a guided review of literature that seemed potentially relevant. A report on the outcomes of that is the substance of chapter 2. From the outset, I was reading widely about technology which is unsurprising given the professional context in which I was then working. It was also necessary to re-visit readings on epistemology and to add value to that which had become over twenty years out of date. Since learning leads to knowing, I spent some time reviewing literature about learning in the context of teacher's professional development.

Since there was clearly an emerging theme in and around autobiography, it seemed appropriate to visit texts that focused narrowly on studies of the ‘self’. Whilst working towards the submission of this thesis I was still reading around technology, for the purposes of the study, and, out of interest and in response to new learning needs thrown up by constantly changing workplace scenarios. Insights arising from those reading activities have been edited down into section 2.3.

So, chapter 2 comprises three sub-sections on epistemology - knowledge -, the ‘self’ and technology. Represented graphically the domains might look like this:



**Figure 1: The Domains**

Chapter 3 sets out the epistemological framework for the study and the ensuing research methodology. It seems necessary to be explicit about how I have come to know what I claim to know and to show how the selected research methodology supports these claims.



Chapter 4 contains the formal reflections on the illustrative moments, approaching them in a number of ways in order to 'wring' from them as much meaning, significance and theory as possible. For ease of reading, the first written up versions of the IMs are presented as appendices (2-6), such that it would be possible to 'toggle' backwards and forwards between them and my reflections on them. Towards the end of this chapter, I begin to theorise from the reflections and my analysis before drawing my findings together.

Conclusions from the research are set out in chapter 5, wherein I also indicate how I believe the thesis makes an original contribution to the domain of teachers' professional learning.